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**REMARKS**

Claims 1-6 were pending in the present application. New claims 7-10 are added herein. Thus claims 1-10 are now pending. The applicant respectfully requests reconsideration and allowance of the present application in view of the above amendments and the following remarks.

The applicant notes with appreciation the acknowledgement of the claim for priority under section 119 and the notice that all certified copies of the priority documents have been received.

The applicant acknowledges and appreciates receiving a copy of the form PTO-1449 submitted with the Information Disclosure Statement filed on March 30, 2004 on which the Examiner has initialed all listed items.

Claims 2, 4, and 6 stand rejected under 35 USC §112, second paragraph, as being allegedly indefinite. Claim 2 is amended herein to depend from claim 1 thus obviating the basis for the rejection. The rejection of claims 4 and 6 has been addressed by virtue of the dependence of claims 4 and 6 from claim 2, as amended. Accordingly, the rejection of claims 2, 4, and 6 should be reconsidered and withdrawn.

Claims 1-6 stand rejected under 35 USC §103(a) as being allegedly unpatentable over Watanabe et al., U.S. Patent No. 5,056,929 in view of Koehler, U.S. Patent No. 3,596,096. The rejection is respectfully traversed.

In accordance with the present invention, as clearly recited in claim 1, the heat conductivity of an adhesive is set so as not to exceed seven times the heat conductivity of a fluid within the sensor. The claimed relationship between the heat conductivity of the fluid and the heat conductivity of the adhesive provides advantages over the prior art in that the temperature distribution of the surface of the sensor becomes substantially the same regardless of the

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presence or absence of creep in the adhesive as shown, for example, in Figure 4 and as described in paragraph [0029] and [0030] of the present application.

In making the rejection, the Examiner has overlooked claimed features and has failed to specifically allege that the applied art combination teaches or suggests all the claimed features. For example, the Examiner has not specifically alleged that the applied art combination teaches or suggests a claimed fluid in an inner cavity surrounded by the bottom surface of a substrate and a mounting surface. The Examiner has further not alleged that the applied art combination teaches or suggests the claimed adhesive consisting of a material having a heat conductivity not exceeding seven times the heat conductivity of the fluid. The Examiner improperly characterizes the claimed adhesive only as consisting of a "low heat conductive" material.

A close review of the applied references fails to reveal any teaching or suggestion of the claimed fluid or the claimed adhesive consisting of a material having a heat conductivity not exceeding seven times the heat conductivity of the fluid present in the inner cavity, e.g. the inner cavity surrounded by a bottom surface of a substrate and a mounting surface. As noted, the claimed relationship between the respective heat conductivities of the fluid and the adhesive is specifically described as being advantageous as shown and described in connection with Figure 4 and is thus not simply a matter of design choice and is not arrived at through routine experimentation.

The Examiner admits that there is no teaching or suggestion of the adhesive with the claimed heat conductivity in Watanabe. The adhesive of Kohler is simply described as a rubber silicon adhesive and is not described as having the claimed features, e.g. having a heat conductivity not exceeding seven times the heat conductivity of the fluid. There is no description in Kohler of the heat conductivity of the adhesive 30, and there is no description of the role of the adhesive in distributing the temperature as described in applicant's specification.

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Since it is the nitrogen-hydrogen cryogenic tip of Kohler that cools the detector chip, the adhesive does not regulate the temperature of the sensor as asserted by the Examiner and thus the alleged motivation for the combination fails. Accordingly, the applied art combination is improperly motivated and still fails to teach or suggest all the claimed features as required.

Accordingly, for at least the reasons set forth hereinabove, a *prima facie* case of obviousness has not properly been established in that the applied art combination is improperly motivated and still fails to teach or suggest all the claimed features as required. It is respectfully requested that the rejection of independent claim 1 be reconsidered and withdrawn.

Claims 2-6, by virtue of depending from independent claim 1, are allowable for at least the reasons set forth hereinabove. It is respectfully requested therefore that the rejection of claims 2-6 be reconsidered and withdrawn.

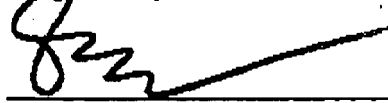
New claims 7-10, by virtue of depending from independent claim 1, are allowable for at least the reasons set forth hereinabove. Support for new claims 7-10 can be found, for example, in paragraph [0021] of the applicant's specification. Favorable consideration is respectfully requested.

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In view of the foregoing, the applicant respectfully submits that the present application is in condition for allowance. A timely notice to that effect is respectfully requested. If questions relating to patentability remain, the examiner is invited to contact the undersigned by telephone.

Please charge any unforeseen fees that may be due to Deposit Account No. 50-1147.

Respectfully submitted,



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